/151 cont./

438 objects of exchange: veld food, meat, articles of clothing, and utilitarian objects. It appears that barter is also carried out in a smaller circle. To the "child of the moment," something different is always preferred.

[443] Markets are not held.

The chains of ostrich egg shells have a certain fixed value [435] since they are highly coveted. A leaf [Platte] of tobacco likewise has a fixed value.

/152/ This means that under all circumstances, wherever [436] one goes, both tobacco and chains can be traded. Only in this sense is it possible to speak of money substitutes. I am convinced that with a sufficient number of tobacco leaves [Plattentabak] in one's pocket, and without any provisions, one can live by barter, that is, if the Bushman himself happens to have anything.

The only things that one might not be able to obtain from the Auin in exchange for tobacco are lance points.

The Auin is unacquainted with our custom of indicating 804 length with two fingers of one or both hands. Length is indicated by pointing with one finger to the index finger of the other hand or to a stick.

A "fathom" is indicated by extending both arms, in a manner similar to ours.

As a "dry measure" they use one or both cupped hands, the latter held close together.

Another dry measure is made by crooking the arm and filling the hollow between the arm and chest with a cloth, or both arms are crooked with the hands fastened together in front of the body and the hollow is filled with a cloth.

We also have the saying "an armful."

The hide cap is also used for measuring.

As rough as the measures are, they nonetheless appear to have a certain, though naturally quite inexact validity. I have observed how a Bushman exchanged "an armful" of veld food for tobacco. The owner of the tobacco did not deem the goods he received sufficient, and the other had to add "a handful."

Weights are estimated. Naturally, an object for comparison is always present.

Weights are estimated, as among us, by briefly lifting the weights to be compared, one after the other. Even the accompanying

/152 cont./

804 reflective and sly facial expression is exactly the same as ours.

O. Techniques

439 511 A definite domestic industry is present. Whatever the Auin really needs, he is able to manufacture for himself. All imported objects are luxury items. I make an exception in the case of the iron lance points, but I believe that if necessary the Bushman could even do without them.

463 The beginnings of a division of labor can be seen in the fact that only certain individuals practice the smith's trade, which, incidentally, does not extend to the manufacture of lance points.

323 Pottery is unknown.

439 Pots, supposedly from the Okovangga, are to be found sporadically. The Auin, however, is unable to repair such a vessel, as by puttying.

285 Rings of braided grass are manufactured. I myself have never seen them, since they are only made of young, but no longer green grass; in other words, shortly after the rainy season.

[294] It is said that at the same time of year certain special artists braid hat-like head coverings.

The grass rings and hats have only a limited durability, for in September and October there was none left for me to see.

[415] Sieves are made of parallel grass leaves joined together by thin strings. They are used to strain food.

"Kirris" are made with attractive decorations (Fig. 12).

413 531 A root stock with a knotty end is peeled and made smooth. A kind of pyrography is practiced on it by wrapping it, leaving bare spaces, with a long strip of the wet bark that was peeled off, and then placing the entire stick in red-hot coals. The unwrapped parts burn to a black color, while the other parts remain white.

I could not learn the purpose of these decorated sticks among the Auin. They use rough, pointed sticks for digging sticks. The kirris, therefore, seem to be luxury articles.

412 Iron knives, sharpened pieces of iron, or lance points are used as tools. As an example of pyrography, see the pipe plug, page 33.

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eland, Castor and Pollux his wives; the Magellanic Clouds a steenbok; Orion's sword three male tortoises hung upon a stick, his belt three female tortoises so hung, etc. As these names indicate, there is a good deal of folklore centring in the stars, and indeed a considerable part of the vast collections of Cape Bushman lore made by Bleek and Lloyd relate to the heavenly bodies, which are regarded as once having been men or animals before being transformed into their present state. In one tale, for instance, it is related that a girl of the early race (preceding the Bushmen) wished for a little light, so that the people might see to return home by night. She therefore threw wood-ashes into the sky and these became the Milky Way. In another, again, it is told how a girl, at the time of her puberty seclusion, saw some people eating together at a dassie's house of branches. As a result they and the house, fixed by her looks, became stars in the sky, where they are now to be seen as the Corona Australis.[1]

The Hiechware of the Eastern Kalahari, according to Dornan, also "have considerable acquaintance with various groups or prominent stars, and have names for them", but the only one mentioned by him is the Southern Cross, referred to as the "giraffe star" and said to be somewhat like this animal in appearance.[2]

For shorter lengths of time the Bushmen go by the Moon, but they make no attempt to reckon how many moons there are in the year or in a season.[3] They observe the phases of the Moon closely, but seem to have no division of time into anything corresponding to weeks, although they readily pick up the European system of weeks when working for white people, and will come regularly on the seventh day for tobacco, etc. Otherwise, in their intercourse with white people, the wage, if not given daily, is demanded at the New Moon.[4]

The day is apparently divided according to the position of the sun, but no names have been recorded for any fixed divisions or parts of the day.

The notion of time is also used to indicate distance, for which there are no special units. Generally distance is reckoned by the time it

[1] Bleek, *Bushman Texts*, 10 sq.
[2] *Pygmies and Bushmen*, 165.
[3] Lebzelter says, however ("Bei den !Kuñ-Buschleuten," 15) that the Eastern Kung have a "vegetation year" of 10 months. The year is reckoned from one veldkos harvest to another. He omits to give any further details.
[4] D. F. Bleek, *Naron*, loc. cit.; *idem*, "Bushmen of Central Angola," loc. cit.; Kaufmann, loc. cit.

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804 takes to reach the place. If, for instance, a Bushman is asked how far a
805 certain waterhole is, he points to the part of the sky which the sun
823 will have reached by the time one gets to that waterhole; or, if it is far, he says: "One night on the way," or "two", etc.; or, again, if asked the length of a journey, he will name the places at which he slept or will sleep, touching a finger to his lips for each, then hold up the fingers, saying: "So many nights" (not days).[1]

802 In counting, they use only the numerals one and two quite
177 freely. Three they sometimes use, taking the Nama word for it, although they are more apt to speak of "two and one" than "three". For anything above three they generally make use of the word "many", although by the Northern Bushmen Nama or Bantu numerals may sometimes by substituted. These higher numerals, however, are evidently picked up from their neighbours by ear, and repeated without much consideration of their value, as, says Miss Bleek, a child of three will count in imitation of its seniors, varying the sequence of numerals each time. In some cases, among both the Cape
802 Bushmen and several of the North-Western tribes, such formations
[803] are also found as $4 = 2 + 2$, $5 = 2 + 2 + 1$, and so on up to ten. The numeral system of the Bushmen is thus essentially binary in principle. Occasionally, however, modifications occur suggestive of a quinary system. Thus in Naron the words for "four" mean "two fingers and two fingers", but "five" is "hand" (sometimes, however $2 + 2 + 1$ fingers), "ten" is "both hands", "fifteen" "both hands, one foot"; and the same system occurs in Auen. As these words indicate, the Bushmen count larger numbers on their fingers. In counting, they begin with the little finger of the left hand, touching each finger in turn on the lips, then continue in the same manner from the thumb of the right hand. As a rule, it may be added, nothing that they want to count exceeds ten, indeed, hardly ever reaches that numeral![2]

[1] D. F. Bleek, *Naron*, 38; *idem*, "Bushmen of Central Angola," loc. cit.; Kaufmann, loc. cit.

[2] D. F. Bleek, loc. cit.; Kaufmann, loc. cit.; cf. Schmidl, "Zahl und Zählen in Afrika," *Mitt. anthrop. Ges. Wien*, xlv (1915), pp. 194–5, for a useful summary sketch of Bushman numeral systems.

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for the FX10 Bushmen file.
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